IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

VOCALIFE LLC,	§	
	§	
Plaintiff,	§	
	§	
v.	§	CIVIL ACTION NO. 2:19-CV-00123-JRG
	§	
AMAZON.COM, INC., AMAZON.COM	§	
LLC,	§	
	§	
Defendants.	§	

MEMORANDUM OPINION AND ORDER

Before the Court are the Motion for Additional Findings Regarding Inequitable Conduct

and to Amend or Alter the Judgment (the "Inequitable Conduct Motion" or "IC Motion") (Dkt.

No. 356) and the Motion for Judgment as a Matter of Law of Non-Infringement Under Rule 50(b)

(the "JMOL Motion") (Dkt. No. 357) filed by Defendants Amazon.com, Inc. and Amazon.com

LLC (collectively, "Defendants" or "Amazon"). Having considered these Motions, and for the

reasons stated herein, the Court finds that the Motions should be **DENIED**.

I.   BACKGROUND

Plaintiff Vocalife LLC ("Plaintiff" or "Vocalife") filed suit against Amazon, alleging that

certain of Amazon's Echo products[1] (the "Accused Products") infringe U.S. Patent No. RE47,049

(the "'049 Patent"). (*See* Dkt. No. 1). A jury trial was held in the above-captioned case beginning

on October 1, 2020. (Dkt. No. 328). At the close of evidence, the parties moved for judgment as a

matter of law pursuant to Federal Rule of Civil Procedure 50(a). (*See* Dkt. Nos. 318, 339, 342).

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[1] At trial, the Accused Products were: the Amazon Echo 1st Generation, Amazon Echo 2nd Generation, Amazon Echo 3rd Generation, Amazon Echo Dot 1st Generation, Amazon Echo Dot 2nd Generation, Amazon Echo Dot 3rd Generation, Amazon Echo Dot Kids Edition 1st Generation, Amazon Echo Dot Kids Edition 2nd Generation, Amazon Echo Look, Amazon Echo Show 2nd Generation, Amazon Echo Spot, Amazon Echo Plus 1st Generation, Amazon Echo Plus 2nd Generation, and Amazon Echo Studio. (Dkt. No. 340 at 1307:4–12).

Among the Rule 50(a) Motions heard by the Court was Amazon's Motion for Judgment as a Matter of Law of No Induced Infringement, which the Court denied. (Dkt. No. 339 at 1255:16–18; Dkt. No. 342 at 2).

On October 8, 2020, the jury returned a verdict finding that Amazon infringed one or both of Claims 1 or 8 of the '049 Patent (the "Asserted Claims") and that neither of the Asserted Claims were invalid. (Dkt. No. 323). The Court entered a Final Judgment reflecting the jury's unanimous verdict. (Dkt. No. 343). The Court additionally considered Amazon's assertion of unenforceability of the '049 Patent on the basis of inequitable conduct, holding a bench trial on October 8, 2020 while the jury deliberated on their verdict. (*See* Dkt. No. 341). The Court subsequently issued an Order containing its findings of fact and conclusions of law with respect to inequitable conduct, ultimately holding that Amazon did not establish inequitable conduct by clear and convincing evidence. (Dkt. No. 353).

II.   AMAZON'S JMOL MOTION

Pursuant to Federal Rule of Civil Procedure 50(b), Amazon filed its JMOL Motion seeking judgment as a matter of law of no induced infringement. (Dkt. No. 357). The Court finds that substantial evidence exists supporting the jury's verdict.

A. Legal Standard

"Judgment as a matter of law is proper when 'a reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue.'" *Abraham v. Alpha Chi Omega*, 708 F.3d 614, 620 (5th Cir. 2013) (quoting Fed. R. Civ. P. 50(a)). The non-moving party must identify "substantial evidence" to support its positions. *TGIP, Inc. v. AT&T Corp.*, 527 F. Supp. 2d 561, 569 (E.D. Tex. 2007). "Substantial evidence is more than a mere scintilla. It means such relevant

evidence as a reasonable mind might accept as adequate to support a conclusion." *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1363 (Fed. Cir. 2004).

"The Fifth Circuit views all evidence in a light most favorable to the verdict and will reverse a jury's verdict only if the evidence points so overwhelmingly in favor of one party that reasonable jurors could not arrive at any contrary conclusion." *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1361 (Fed. Cir. 2018) (citing *Bagby Elevator Co. v. Schindler Elevator Corp.*, 609 F.3d 768, 773 (5th Cir. 2010)). A court must "resolve all conflicting evidence in favor of [the verdict] and refrain from weighing the evidence or making credibility determinations." *Gomez v. St. Jude Med. Daig Div. Inc.*, 442 F.3d 919, 937–38 (5th Cir. 2006).

B. Discussion

Amazon bases their JMOL Motion on the following grounds: first, that Vocalife did not present substantial evidence that Amazon knew its customers were infringing; second, that Vocalife did not present substantial evidence that Amazon's customers directly infringed. (*See* Dkt. No. 357).

1. AMAZON'S KNOWLEDGE OF CUSTOMERS' INFRINGEMENT

Amazon argues that Vocalife failed to present substantial evidence that Amazon knew that its customers were literally infringing the '049 Patent. (*Id*. at 9–10). Amazon argues that the only evidence presented by Vocalife was the testimony of Joseph McAlexander, who concluded that Amazon indirectly infringed by offering to sell and selling the Accused Products and instructing users on how to set up and use the Accused Products. (*Id*. at 10) (citing Dkt. No. 357-5 at 652:4–17). Amazon contends that the exhibit Mr. McAlexander referred to, PTX-1372, does not suggest Amazon's knowledge with respect to the '049 Patent. (*Id*.). Further, Amazon argues that PTX-1372 does not provide instructions for setting up or using an Amazon Echo in the manner

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described by Mr. McAlexander. (*Id*.). Amazon argues that Vocalife failed to show that Amazon had specific intent for its customers to infringe. (*Id*. at 15).

Additionally, Amazon argues that its own evidence showed that it believed its customers were not infringing. (Dkt. No. 357 at 11). At trial, Amazon's corporate representative, Phil Hilmes, testified that he believed the Accused Products did not infringe because they used fixed beamforming, rather than adaptive beamforming. (*Id*. at 12) (citing Dkt. No. 357-7). Mr. Hilmes referred to the lab notebook of Dr. Amit Chhetri and Amazon's internal decisions regarding beamforming, including testimony that Amazon determined that adaptive beamforming was too complex and costly to implement in the Accused Products. (*Id*. at 12–13) (citing Dkt. No. 357-7; DTX-314; DX-27.12). Mr. Hilmes further testified that he believed the Accused Products did not satisfy the "sound source localization" or "determining a delay" claim limitations due to Amazon's use of fixed beamforming. (*Id*. at 13). Amazon's expert witness, Dr. Sayfe Kiaei, opined that the Accused Products did not infringe for many of the same reasons that Mr. Hilmes believed the Accused Products did not infringe. (*Id*. at 14). Amazon argues that its evidence of a good-faith belief that its products did not infringe precludes a finding of induced infringement. (*Id*. at 14–15).

Vocalife argues that, at least as of the time the complaint was filed, Amazon knew of the '049 Patent, and that the jury could reasonably rely on Mr. McAlexander's testimony that Amazon knew or should have known that its instructions would result in infringement of the '049 Patent. (Dkt. No. 363 at 5) (citing *Summit 6 LLC v. Research in Motion Corp.*, No. 3:11-CV-367-O, 2013 WL 12124321, at *5 (N.D. Tex. June 26, 2013)). Vocalife points to PTX-1377, an Amazon presentation, and PTX-130, an article written by Mr. Hilmes and other Amazon employees. (*Id*. at 6) (citing Dkt. Nos. 363-4, 363-5). Vocalife argues that these exhibits showed that all of the Accused Products operated in the same manner and that the article described algorithms designed

to perform claim limitations, including adaptive beamforming. (*Id.*). Vocalife further points to

PTX-111, which includes user manuals and support for the Accused Products, as evidence

presented to the jury showing that Amazon instructed its customers on how to use the Accused

Products in an infringing manner. (*Id.* at 7). Vocalife argues that the jury would have been justified

in discounting Amazon's belief in its noninfringement position, since Mr. Hilmes lacked personal

knowledge of Dr. Chhetri's notebook and because the notebook was "limited to the time period

from February to June 2011." (*Id.* at 8). Vocalife additionally points to PTX-1378, an exhibit

containing Amazon's source code. (*Id.*).

"Whoever actively induces infringement of a patent shall be liable as an infringer."

35 U.S.C. § 271(b). "[L]iability for inducing infringement attaches only if the defendant knew of

the patent and that 'the induced acts constitute patent infringement.'" *Commil USA, LLC v. Cisco

Sys., Inc.*, 135 S.Ct. 1920, 1926 (2015) (quoting *Global-Tech Appliances, Inc. v. SEB S.A.*,

563 U.S. 754, 766 (2011)). It is undisputed that Amazon knew of the '049 Patent as of the date

Vocalife filed its complaint.[2] Additionally, there is substantial evidence in the record that Amazon

knew that acts it induced its customers to undertake were infringing acts.

Vocalife's expert witness, Mr. McAlexander, testified that he examined Amazon

marketing materials, including PTX-111, a document titled "All Things Alexa" found on

Amazon's website. (Dkt. No. 331 at 567:2–570:6). Mr. McAlexander tested the behavior of certain

Accused Products in the manner described in Amazon's materials. (*Id.* at 567:24–568:2). Mr.

McAlexander cited PTX-1372, an instruction provided by Amazon to its users on how to set up

the Echo products. (Dkt. No. 332 at 604:18–21) ("And so the person who is installing and using

this system has been informed by Amazon to turn it on and use it in a way that they specify . . .").

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[2] Amazon acknowledges it "knew of the '049 [P]atent after the Complaint was filed . . ." (Dkt. No. 357 at 10).

Citing PTX-1372, Mr. McAlexander concluded that Amazon indirectly infringed the '049 Patent. (*Id*. at 652:4–17).

"While proof of intent is necessary, direct evidence is not required; rather, circumstantial evidence may suffice." *Water Techs. Corp. v. Calco, Ltd.*, 850 F.2d 660, 668 (Fed. Cir. 1988). Reasonable jurors could find that Amazon had the requisite intent based on the evidence presented during this trial. Amazon knew of the '049 Patent when Vocalife filed its complaint. Evidence was presented showing that Amazon instructed its customers to use Echo products in an infringing manner. Notwithstanding Amazon's evidence on this issue, the Court views the evidence in the light most favorable to the jury's verdict. Accordingly, the Court concludes that substantial evidence of Amazon's intent was presented, and JMOL on this ground should be denied.

2. DIRECT INFRINGEMENT BY AMAZON'S CUSTOMERS

Amazon additionally argues that Vocalife failed to present substantial evidence that Amazon customers directly infringed the Asserted Claims. (Dkt. No. 357 at 16).

"In order to succeed on a claim of inducement, the patentee must show . . . that there has been direct infringement . . . ." *Enplas Display Device Corp. v. Seoul Semic. Co., Ltd.*, 090 F.3d 398, 407 (Fed. Cir. 2018) (quoting *Minn. Mining & Mfg. Co. v. Chemque, Inc.*, 303 F.3d 1294, 1304–05 (Fed. Cir. 2002)). "Literal infringement requires that every limitation of the patent claim be found in the accused device." *Wenger Mfg., Inc. v. Coating Machinery Sys., Inc.*, 239 F.3d 1225, 1231 (Fed. Cir. 2001) (quoting *Gen. Mills., Inc. v. Hunt-Wesson, Inc.*, 103 F.3d 978, 981 (Fed. Cir. 1997)).

Claim 1 of the '049 Patent recites:

> A method for enhancing a target sound signal from a plurality of sound signals, comprising:
> providing a microphone array system comprising an array of sound sensors
> positioned in . . . a linear, circular, or other configuration, a sound

source localization unit, an adaptive beamforming unit, and a noise reduction unit, wherein said sound source localization unit, said adaptive beamforming unit, and said noise reduction unit are integrated in a digital signal processor, and wherein said sound source localization unit, said adaptive beamforming unit, and said noise reduction unit are in operative communication with said array of said sound sensors;

receiving said sound signals from a plurality of disparate sound sources by said sound sensors, wherein said received sound signals comprise said target sound signal from a target sound source among said disparate sound sources, and ambient noise signals;

determining a delay between each of said sound sensors and an origin of said array of said sound sensors as a function of distance between each of said sound sensors and said origin, a predefined angle between each of said sound sensors and a reference axis, and an azimuth angle between said reference axis and said target sound signal, when said target sound source that emits said target sound signal is in a two dimensional plane, wherein said delay is represented in terms of number of samples, and wherein said determination of said delay enables beamforming for . . . said array of sound sensors . . . in a plurality of . . . configurations . . . ; estimating a spatial location of said target sound signal from said received sound signals by said sound source localization unit;

performing adaptive beamforming for steering a directivity pattern of said array of said sound sensors in a direction of said spatial location of said target sound signal by said adaptive beamforming unit, wherein said adaptive beamforming unit enhances said target sound signal and partially suppresses said ambient noise signals; and

suppressing said ambient noise signals by said noise reduction unit for further enhancing said target sound signal.

(Dkt. No. 1-3 at 21:26–22:3).

Claim 8 of the '049 Patent recites:

The method of claim 1, wherein said noise reduction unit performs noise reduction in a plurality of frequency sub-bands, wherein said frequency sub-bands are employed by an analysis filter bank of said adaptive beamforming unit for sub-band adaptive beamforming.

(*Id*. at 22:58–62).

Amazon argues that Vocalife did not present substantial evidence that Amazon customers perform the "determining a delay" step, the "determining a delay based on said target sound signal"

step, the "delay represented in terms of number of samples" step, the "plurality of configurations" step, the "estimating a spatial location" step, and the "performing adaptive beamforming" step. (Dkt. No 357 at 16–29).

i.   "Determining a delay"

The "determining a delay" steps include determining a delay (1) between each of said sound sensors and an origin of said array of said sound sensors; (2) as a function of distance between each of said sound sensors and said origin, a predefined angle between each of said sound sensors and a reference axis, and an azimuth angle between said reference axis and said target sound signal; (3) when said target sound source that emits said target sound signal is in a two-dimensional plane; (4) wherein said delay is represented in terms of number of samples; and (5) wherein said determination of said delay enables beamforming for said array of sound sensors in a plurality of configurations. Amazon argues that Vocalife did not present sufficient evidence that the Accused Products perform the steps associated with "determining a delay." (Dkt. No. 357 at 17).

Amazon argues that PTX-1377, which Mr. McAlexander relied upon, described audio algorithms used by third parties making different products able to access Amazon's Alexa voice service. (*Id.*) (citing Dkt. No. 357-6 at 723:5–725:20; Dkt. No. 357-7 at 911:13–912:6, 912:20–24; PTX-1377 at 60). Amazon further argues that Mr. McAlexander's testimony related merely to the occurrence of each microphone in a circular array receiving sound at different times, rather than any determination of delay by the Accused Products. (*Id.* at 18) (citing Dkt. No. 357-5 at 613:21–25). Amazon further argues that Mr. McAlexander did not identify source code executing on the Accused Products that determines a delay, and instead relied on source code used by Amazon in simulations and modeling. (*Id.*) (citing Dkt. No. 357-5 at 615:11–618:22, 696:20–23).

Additionally, Amazon argues that any delays determined were not based on receipt of sound signals—if there is any delay determined at all, Amazon argues, such was done in the lab and not after receiving any target sound signal. (*Id.*).

Vocalife argues that substantial evidence was presented showing that the Accused Products practice the "determining a delay" limitation. (Dkt. No. 363 at 12). In particular, Vocalife points to Mr. McAlexander's testimony that the delays are calculated in the Fast Fourier Transform ("FFT") function, as well as documentary and source code evidence presented. (*Id.*) (quoting Dkt. No. 363-11 at 686:21–687:3). Vocalife further argues that Amazon attempted to argue a construction contrary to the Court's construction, by requiring that "determining a delay" includes "calculating a delay" and requiring a particular order of steps. (*Id.* at 14–15).

The Court addressed the order of steps in its Claim Construction Order. (*See* Dkt. No. 83 at 38–40). Amazon argued in favor of a construction that required the target sound signal be received before the steps of determining a delay based on the azimuth angle. (*Id.* at 39; *see* Dkt. No. 69 at 33–34). The Court rejected Amazon's proposed construction and held that no specific ordering was required beyond the limitations expressed in the claims. (*Id.* at 40). The Court again rejects Amazon's arguments that the Accused Products were required to receive a target sound signal prior to determination of a delay. Further, the Court construed the "determining a delay" claim language as having its plain and ordinary meaning. (*Id.* at 15–16).

Mr. McAlexander testified that the Accused Products formed beams "based upon weighting factors that were pre-determined in the laboratory from a simulation model," but noted that "[t]he MATLAB code is not running on the Amazon product, just like none of the source code is running on the Amazon product. It's what is compiled and provided to the device. That's what's executed." (*Id.* at 617:21–618:3, 696:10–16).

Mr. McAlexander testified at length regarding how the Accused Products satisfied the "determining a delay" claim limitations. At a high level, and referring to the depiction in the AWS slides in PTX-1377,[3] Mr. McAlexander described to the jury that an Echo device with an array of six microphones would "pick up the sound signal that is targeted from that sound source" and that "the microphone that's identified as first is going to be the first microphone that picks up the signal." (Dkt. No. 332 at 613:8–9, 13–14). Continuing, Mr. McAlexander stated that "each microphone is going to be picking up the signal at a different time. It's a delay." (*Id*. at 613:24–25). Referring to PTX-386, Mr. Chhetri's notebook, Mr. McAlexander described how Amazon took the layout of the microphone array, simulated sound signals coming from different directions (i.e., various azimuths and elevations) in MATLAB, and determined "weighting factors" to be used by the devices in beamforming. (*Id*. at 616:22–617:15). Mr. McAlexander testified that "determining is done by execution of code, considering the different parameters that are required, which is the angle, the distance, and the azimuth" and identified in the "mLocM" part of the source code which identifies the location of the sound signal. (*Id*. at 689:10–15, 690:19–21).

The Court finds that Vocalife presented substantial evidence that the Accused Products as used met the "determining a delay" step.

ii.   "Determining a delay based on said target sound signal"

Amazon additionally argues that insufficient evidence was presented that the Accused Products "determine a delay as a function of 'an azimuth angle between said reference axis and said target sound signal.'" (*Id*. at 19). Amazon argues that Mr. McAlexander's testimony that MATLAB code used in simulations satisfied the claim limitation was not substantial evidence. (*Id*. at 19–20) (citing PTX-386; Dkt. No. 357-5 at 621:14–622:16).

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[3] The Court preadmitted PTX-1377 at the pretrial conference, finding the exhibit was a statement by a party opponent. (Dkt. No. 308 at 47:6–12).

Addressing the claim limitation of determining a delay of "an azimuth angle between said reference axis and said target sound signal," Mr. McAlexander identified in PTX-386 the source code portions micTune and micLook, testifying that "all of that is covered and—and meets the limitation of the angle between the sound sensors and the azimuth of the target sound signal that's coming out." (Dkt. No. 332 at 621:5–622:16). The Court finds that Vocalife presented substantial evidence that the Accused Products determined a delay based on the "said target sound signal."

iii.   "Represented in terms of number of samples"

Amazon next argues that Vocalife did not present substantial evidence that, once delay is determined, the Accused Products represented delay in terms of number of samples. (Dkt. No. 357 at 20). Amazon argues that Mr. McAlexander's testimony that the source code used a sampling rate of 16 kHz is insufficient because sampling rate is not the same thing as number of samples. (*Id*. at 20–21) (citing Dkt. No. 357-5 at 625:1–628:1).

Vocalife argues that Mr. McAlexander's testimony regarding the conversion of 16,000 samples per second from the time domain satisfies the "number of samples" limitation. (Dkt. No. 363 at 16).

Mr. McAlexander pointed to the audio front end code in PTX-1378 to support his opinion that the claim limitation "said delay is represented in terms of number of samples" was satisfied as signals "sampled at 16,000 bits—16,000 samples per second." (Dkt. No. 332 at 624:24–626:11). Mr. McAlexander then testified that the FFT function converted such samples from the time domain and created sample output. (*Id*. at 627:8–15). The Court finds that Vocalife presented substantial evidence that the Accused Products represented delay in terms of number of samples.

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iv.   "Plurality of configurations"

Amazon argues that Vocalife did not present substantial evidence that the Accused Products perform the limitation that "said determination of said delay enables beamforming for said array of sound sensors in a plurality of configurations." (Dkt. No. 357 at 21). Amazon argues that Mr. McAlexander's testimony that the limitation was met by code capable of being utilized across multiple different products was not sufficient. (*Id.*) (citing Dkt. No. 357-5 at 630:20–631:1). Amazon argues that "the claim requires first receiving a target sound signal, then determining a delay based on that target sound signal, and then the determination of 'said delay' enables beamforming for sound sensors in a 'plurality of configurations.'" (*Id.*). Further, Mr. McAlexander testified that the delay is determined by the "weighting factors," which are designed for a particular microphone array. (*Id.* at 21–22) (citing Dkt. No. 357-5 at 616:14–617:18, 618:4–11, 618:18–22, 619:24–620:16; Dkt. No. 357-6 at 728:4–14). Amazon argues that, even if the Accused Products determine a delay in the manner Vocalife contends, such is done for a single geometric layout of microphones and not for a plurality of layouts. (*Id.* at 22).

Vocalife argues that the "plurality of configurations" limitation is met based on testimony from Mr. McAlexander regarding the geometric arrangements of microphones. (Dkt. No. 363 at 12–13; Dkt. No. 366 at 7–8).

Mr. McAlexander also testified that the "said determination of said delay enables beamforming for said array of sound sensors in a plurality of configurations" limitation was met when "samples that are received by the microphones are sent in . . . then processed in the frequency domain . . . and the output of that is beamforming." (*Id.* at 629:8–13). Mr. McAlexander testified that this manner of determining a delay to enable beamforming worked across a plurality of configurations. (*Id.* at 630:21 – 631:1) ("The reason it's done in a plurality of configurations is

because . . . the Doppler can be utilized across two different products . . . . The MPAF can be provided across all the other products . . . ."). The Court finds that Vocalife presented substantial evidence that the "plurality of configurations" limitation was met.

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v.   **"Estimating a spatial location"**

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Amazon argues that Vocalife did not present substantial evidence that the Accused Products meet the claim limitation of "estimating a spatial location of said target sound signal from said received sound signals by said sound source localization unit." (Dkt. No. 357 at 22–23). First, Amazon argues that the evidence presented by Vocalife only showed that the Accused Products determined the direction of sound signals, rather than the spatial location. (*Id*. at 23) (citing Dkt. No. 357-5 at 634:15–18, 635:1–8). Second, Amazon argues that Vocalife's evidence did not show that the Accused Products estimate the spatial location using a "sound source localization unit." (*Id*. at 23–24). Amazon also argues that the evidence relied on by Mr. McAlexander, which included PTX-1377, PTX-301, and source code, did not show that a sound source localization unit performed the limitation. (*Id*.) (citing Dkt. No. 357-5 at 633:22–640:23). Amazon points to testimony by its own witness, Mr. Hilmes, stating that there was no sound source localization unit because inclusion of such unit would delay detection of the "wake word," require a more powerful processor, and that such unit was unnecessary because the Accused Products use fixed beams. (*Id*. at 24) (citing Dkt. No. 357-7 at 898:12–899:1, 900:4–17, 905:6–19). Hilmes also testified regarding PTX-301, a research paper relied upon by Mr. McAlexander, and stated that the paper did not describe how the Accused Products actually work. (*Id*.) (citing PTX-301; Dkt. No. 357-7 at 906:13–908:22).

Vocalife argues that the evidence presented was sufficient to support the jury's verdict with respect to the spatial location limitation. (Dkt. No. 363 at 16). Vocalife points to Mr.

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McAlexander's testimony that PTX-1377 showed how the Accused Products light up when detecting a sound signal. (*Id.* at 17) (citing PTX-1377; Dkt. No. 363-11 at 635:1–8). Additionally, Mr. McAlexander relied on source code, pointing to certain code modules and PTX-301. (*Id.*) (citing PTX-301; Dkt. No. 363-11 at 634:16–18, 635:16–23, 640:14–20). Vocalife also argues that Amazon is rewriting the Court's construction of the "spatial location" term to exclude "direction." (*Id.* at 18).

Amazon argues that "no claim construction was necessary" for "spatial location," yet also argues that direction is not sufficient to meet the spatial location limitation. (Dkt. No. 365 at 8). The Court instructed the jury to apply the plain and ordinary meaning of "spatial location." (Dkt. No. 340 at 1310:22–1311:2). Vocalife presented evidence, through the opinion testimony of Mr. McAlexander, that in the Accused Products "each one of the microphones is going to pick up that incoming sound signal . . . it will determine which microphone is showing the least delay." (Dkt. No. 332 at 634:20–24). Mr. McAlexander pointed to the source code, stating that "there will be a decision process made as to which one of [the input beams] is oriented in the . . . closest direction to the incoming signal." (*Id.* at 636:8–11).

The parties presented conflicting testimony as to this limitation. However, the Court views the evidence in the light most favorable to the jury's verdict. The jury was entitled to weigh the evidence and the credibility of that evidence. The Court finds that Vocalife presented substantial evidence that the Accused Products meet this claim limitation.

vi. "Performing adaptive beamforming"

Amazon argues that Vocalife did not present substantial evidence that the Accused Products meet the "performing adaptive beamforming for steering a directivity pattern of said array of said sound sensors in a direction of said spatial location of said target sound signal" step. (Dkt.

No. 357 at 24). The Court construed the limitation to mean "a beamforming process where the directivity pattern of the microphone array is capable of being adaptively steered in the direction of a target sound signal emitted by a target sound source in motion." (Dkt. No. 83 at 51). The Accused Products were presented at trial as falling into "Doppler" or "MPAF" categories,[4] both of which are addressed by Amazon in its JMOL Motion. (Dkt. No. 357 at 25).

Regarding the Doppler products, Amazon argues that Mr. McAlexander's testimony that the Accused Products use a beam selector to "orient and steer the beams in the direction of the sound input" was "false, misleading, conclusory, and unsupported by the evidence." (*Id.*) (quoting Dkt. No. 357-4 at 573:18–24; Dkt. No. 357-5 at 642:13–17). Amazon argues that the Court's construction requires a steering of the array's directivity pattern, rather than the selection of a beam from a set of fixed beams. (*Id.* at 26).

Regarding the MPAF products, Amazon argues that Mr. McAlexander "admitted that the MPAF-based products create eight beams and there is 'again, a selection' in a 'similar fashion' to the Doppler-based products." (*Id.*) (quoting Dkt. No. 357-5 at 586:2–16, 643:23–644:4). Amazon also argues that Mr. McAlexander's reliance on an "AdaptiveBeamFormer" code module was insufficient because Mr. McAlexander did not explain how the module worked or met the claim limitation. (*Id.* at 26–27). Amazon points to testimony by Mr. Hilmes and Carlo Murgia, another Amazon witness, who testified as to Amazon's "internal and non-traditional use of the phrase 'adaptive beamformer.'" (*Id.* at 27).

Vocalife argues that Mr. McAlexander's testimony was sufficient because he identified the manner in which the Accused Products performed the adaptive beamforming limitation using the "filter-and-sum technique," and how the code executed on the devices determined the delay and

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[4] The Doppler products are the Amazon Echo 1st Generation and Amazon Echo Dot 1st Generation; the remaining Accused Products are MPAF products. (*See* Dkt. No. 332 at 588:21–589:14).

then reached "the conclusion as to how to weight the beams in accordance with what direction of the sound signal coming in." (Dkt. No. 363 at 18–19) (quoting Dkt. No. 363-11 at 629:8–14, 630:7–10, 12–19). Vocalife points to PTX-79, a document describing the audio front end software architecture for MPAF-based products, which contains a block labeled "ABF" for adaptive beamformer. (*Id*. at 19).

Mr. McAlexander testified that this claim limitation was met. (Dkt. No. 332 at 641:23–24). Mr. McAlexander referred to PTX-12, a document showing the audio front end architecture for the Doppler-based products, and testified that the beam selection "is done through the Main Beamformer Selector." (*Id*. at 642:15–17). He also referred to PTX-79 and testified that "the adaptive beamformer is used as part of [the beam selection]." (*Id*. at 643:7–8). Describing how adaptive beamforming was done, Mr. McAlexander testified that "the fixed beamforming identifies the beams that are selectable," and that "the adaptive beamforming is . . . for steering the pattern, and that's done if the target—if the sound source is moving. And in this case, that's exactly what the adaptive beamforming does." (*Id*. at 643:25–644:1, 10–15). He additionally testified that the AdaptiveBeamFormer code module in the MPAF audio front end was further evidence that the claim limitation was met. (*Id*. at 645:2–7).

The Court finds that Vocalife presented substantial evidence that the Accused Products, as used by Amazon's customers, met the "adaptive beamforming" limitation.

III.   AMAZON'S INEQUITABLE CONDUCT MOTION

Amazon filed its IC Motion seeking additional findings pursuant to Federal Rule of Civil Procedure 52(b) and to alter, amend, or correct the Court's Final Judgment pursuant to Federal Rule of Civil Procedure 59(e) and/or 60(a). (Dkt. No. 356). The Court finds no manifest error requiring additional findings or an amended judgment.

A. Legal Standard

No later than 28 days after the entry of judgment, a party may move the Court to amend its findings or make additional findings. Fed. R. Civ. P. 52(b). "The purpose of motions to amend is to correct manifest errors of law or fact or, in some limited situations, to present newly discovered evidence." *Fontenot v. Mesa Petroleum Co.*, 791 F.2d 1207, 1219 (5th Cir. 1986).

"Reconsideration of a judgment after its entry is an extraordinary remedy that should be used sparingly." *Templet v. HydroChem Inc.*, 367 F.3d 473, 479 (5th Cir. 2004). Under Rule 59(e), a party can move the Court to amend an Order or Judgment within 28 days of entry. Fed. R. Civ. P. 59(e). "Rule 59(e) is properly invoked 'to correct manifest errors of law or fact or to present newly discovered evidence.'" *In re Transtexas Gas Corp.*, 303 F.3d 571, 581 (5th Cir. 2002) (internal citations omitted). A motion for reconsideration "is not the proper vehicle for rehashing evidence, legal theories, or arguments that could have been offered or raised before." *Templet v. HydroChem Inc.*, 367 F.3d 473, 479 (5th Cir. 2004). "Since specific grounds for a motion to amend or alter are not listed in the rule, the district court enjoys considerable discretion in granting or denying the motion." *Allstate Ins. Co. v. Herron*, 634 F.3d 1101, 1111 (9th Cir. 2011) (internal citations omitted). Accordingly, relief under Rule 59(e) is appropriate only when (1) there is a manifest error of law or fact; (2) there is newly discovered or previously unavailable evidence; (3) there would otherwise be manifest injustice; or (4) there is an intervening change in controlling law. *Schiller v. Physicians Res. Grp. Inc.*, 342 F.3d 563, 567 (5th Cir. 2003).

Rule 60(a) allows the Court to "correct a clerical mistake or a mistake arising from oversight or omission whenever one is found in a judgment, order, or other part of the record." Fed. R. Civ. P. 60(a). "To be correctable under Rule 60(a), the 'mistake must not be one of judgment or even of misidentification, but merely of recitation, of the sort that a clerk or

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amanuensis might commit, mechanical in nature.'" *In re Galiardi*, 745 F.2d 335, 337 (5th Cir.

1984) (quoting *Dura-Wood Treating Co. v. Century Forest Indus., Inc.*, 694 F.2d 112, 114 (5th

Cir. 1982)).

B. Discussion

Amazon asks the Court to amend its findings or make additional findings and to amend its

judgment to find that the '049 Patent is unenforceable due to inequitable conduct. (Dkt. No. 356

at 13). The Court is not persuaded that Amazon's requested relief is the type of clerical mistake

that may be corrected pursuant to Rule 60(a). Accordingly, the Court focuses on Amazon's

requests under Rules 52(b) and 59(e).

Amazon argues that the Court should make supplemental findings regarding inequitable

conduct based on evidence presented at trial that Ashok Tankha, the attorney who prosecuted U.S.

Patent No. 8,861,756 (the "'756 Patent") and the '049 Patent, a reissue patent based upon the '756

Patent, submitted false declarations to the U.S. Patent and Trademark Office (the "PTO"). (Dkt.

No. 356 at 4–12). Specifically, Amazon argues that Mr. Tankha's submission of a reissue

declaration without checking a box indicating that the reissue application was for a broadening

reissue was a false declaration and material to patentability. (*Id*. at 8–9). Amazon additionally

argues that an intent to deceive the PTO was shown by the fact that Mr. Tankha submitted previous

declarations that did indicate that the claims were being broadened, whereas the declaration at

issue omitted such indication. (*Id*. at 10–11).

Vocalife argues that Amazon has not pointed to newly discovered evidence nor a manifest

error of law or fact requiring additional or amended findings. (Dkt. No. 360 at 2–3). Vocalife

argues that Amazon merely takes issues with the Court's findings, which included a holding that

Amazon failed to prove intent to deceive the PTO and in fact acknowledged that Amazon's expert

witness, Nicholas Godici, based his opinions on the submission of defective reissue declarations. (*Id.* at 3) (citing Dkt. No. 353 at FF93, CL22).

Fed. R. Civ. P. 52(a) "exacts neither punctilious detail nor slavish tracing of the claims issue by issue and witness by witness," rather, the rule "requires findings that are explicit and detailed enough to enable [the Court of Appeals] to review them under the applicable standard." *Schlesinger v. Herzog*, 2 F.3d 135, 139 (5th Cir. 1993) (internal citations omitted). While the Court was not under an obligation to walk through all of the evidence presented by Amazon,[5] the Court carefully considered the evidence presented and reached its findings based on the same. Amazon's disagreement with the Court's conclusions are not a basis for additional or amended findings.

Amazon additionally requests that the Court alter its Final Judgment to hold the '049 Patent unenforceable, identify Amazon as the prevailing party, award Amazon its costs, and remove from the Final Judgment any indication that Vocalife is the prevailing party and entitled to damages or pre- and post-judgment interest. (Dkt. No. 356 at 13). The Court, having denied Amazon's request for amended findings, finds no basis to amend its Final Judgment.[6]

IV.   CONCLUSION

For the foregoing reasons, Amazon's Motion for Judgment as a Matter of Law of Non-Infringement Under Rule 50(b) (Dkt. No. 357) is **DENIED**.[7]

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[5] In fact, the Court noted in its Findings of Fact and Conclusions of Law Mr. Godici's opinion regarding the reissue declaration: "Mr. Godici further based his opinions on the fact that the application for the '049 Patent was rejected more than once for defective reissue declarations." (Dkt. No. 353 at FF93) (internal citations omitted).

[6] The Court is of the further opinion that, even if its findings were amended to include Amazon's evidence regarding the reissue declarations, Amazon has failed to meet its burden to show by clear and convincing evidence an intent to deceive the PTO. Thus, the outcome would be unchanged.

[7] At a high level, Amazon's Motion essentially asks the Court to reweigh the evidence and elevate their evidence over that presented by Vocalife. The Court declines to do so. Upon finding material evidence within the record which supports the jury's verdict, the Court is compelled to maintain that verdict and respect the evaluations of credibility and weight that lead this jury to conclude as reflected in its unanimous verdict.

Amazon's Motion for Additional Findings Regarding Inequitable Conduct and to Amend

or Alter the Judgment (Dkt. No. 356) is **DENIED**.

   So ORDERED and SIGNED this 14th day of April, 2021.

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RODNEY GILSTRAP
UNITED STATES DISTRICT JUDGE